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Hoff et al.

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[54] **ELECTRONIC BUSINESS TELEPHONE**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 351,745, April 16, 1973, abandoned.

[52] **U.S. Cl.** ..... **179/90 K**; 179/2 DD; 179/90 B

[51] **Int. Cl.²** **H04M 11/00**

[58] **Field of Search** ..... 179/2 DP, 2 CA, 2 A, 90 B, 179/90 R, 90 K, 84 VF; 235/156, 166, 172

[56] **References Cited**

UNITED STATES PATENTS

3,518,629	6/1970	Frankel	340/172.5
3,553,445	1/1971	Hernandez	235/156
3,617,638	11/1971	Jochimsen	179/90 B
3,632,998	1/1972	Bagley	235/92 PL
3,647,973	3/1972	James	179/2 DP
3,652,795	3/1972	Wolf	179/2 DP
3,670,111	6/1972	Bukosky	179/90 B
3,692,962	9/1972	Raczynski	179/90 B
3,760,121	9/1973	Nissim	179/90 K

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[57] **ABSTRACT**

An electronic business telephone for the transmission and receipt of voice messages and digital data. The electronic telephone uses MOS/LSI circuitry to store and visually display telephone numbers or other numeric data and includes the capability of performing local arithmetic computation. In telephone mode, after keyboard entry the number to be dialed is stored and visually displayed for pre-dial verification in articulated format with the area code, prefix and suffix suitably spaced for ease of reading. If the number is busy, the displayed telephone number can be entered into a telephone memory and the memorized number subsequently recalled on demand for automatic redial. In data terminal mode, digital numeric information is displayed in non-articulated or compressed format for visual verification prior to transmission and is exchanged between any two electronic telephone systems, or through proper interfacing, from an electronic telephone to a remote computer. In computation mode, the keyboard and display are used in conjunction with an arithmetic processor and an accumulating memory which may be used to perform calculations during telephone conversation if desired. The various operating modes are supervised and coordinated by a control center module in the form of a MOS/LSI BCD microprocessor which performs telephonic and data alignment functions. The Electronics Business Telephone is also shown as the central supervising unit within a total communications terminal system.

17 Claims, 10 Drawing Figures